

06-15-05

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PTO/SB/21 (09-04)

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**TRANSMITTAL  
FORM**

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission

74

Application Number

10/634,020

Filing Date

08-04-2003

First Named Inventor

Lu et al. Cao et al.

Art Unit

1725

Examiner Name

Tran, Len

Attorney Docket Number

12004

**ENCLOSURES (Check all that apply)**

Fee Transmittal Form



Fee Attached



Amendment/Reply



After Final



Affidavits/declaration(s)



Extension of Time Request



Express Abandonment Request



Information Disclosure Statement



Certified Copy of Priority Document(s)

Reply to Missing Parts/  
Incomplete ApplicationReply to Missing Parts  
under 37 CFR 1.52 or 1.53

Drawing(s)



Licensing-related Papers



Petition

Petition to Convert to a  
Provisional ApplicationPower of Attorney, Revocation  
Change of Correspondence Address

Terminal Disclaimer



Request for Refund



CD, Number of CD(s) \_\_\_\_\_

☐ Landscape Table on CD

Remarks



After Allowance Communication to TC

Appeal Communication to Board  
of Appeals and InterferencesAppeal Communication to TC  
(Appeal Notice, Brief, Reply Brief)

Proprietary Information



Status Letter

Other Enclosure(s) (please identify  
below):IDS Letter; Copies of Cited Documents; PTO-  
2038; Return Receipt Post Card**SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT**

Firm Name

Battelle Memorial Institute

Signature

Printed name

William B. Richards

Date

06-13-2005

Reg. No.

44,301

**CERTIFICATE OF TRANSMISSION/MAILING**

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:

Signature

Typed or printed name

Judy Readman

Date

6/14/2005

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Effective on 12/08/2004.

Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).

**FEE TRANSMITTAL**  
**For FY 2005**☒ Applicant claims small entity status. See 37 CFR 1.27**TOTAL AMOUNT OF PAYMENT** (\$) 180.00**Complete if Known**

Application Number	10/634,020
Filing Date	08-04-2003
First Named Inventor	Lu et al. Cao et al.
Examiner Name	Tran, Len
Art Unit	1725
Attorney Docket No.	12004

**METHOD OF PAYMENT** (check all that apply)

☐ Check ☒ Credit Card ☐ Money Order ☐ None ☐ Other (please identify): \_\_\_\_\_

☒ Deposit Account Deposit Account Number: 021266 Deposit Account Name: Battelle Memorial Institute

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

☐ Charge fee(s) indicated below ☐ Charge fee(s) indicated below, except for the filing fee

☒ Charge any additional fee(s) or underpayments of fee(s) under 37 CFR 1.16 and 1.17 ☐ Credit any overpayments

**WARNING:** Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.**FEE CALCULATION****1. BASIC FILING, SEARCH, AND EXAMINATION FEES**

Application Type	FILING FEES		SEARCH FEES		EXAMINATION FEES		Fees Paid (\$)
	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	
Utility	300	150	500	250	200	100	
Design	200	100	100	50	130	65	
Plant	200	100	300	150	160	80	
Reissue	300	150	500	250	600	300	
Provisional	200	100	0	0	0	0	

**2. EXCESS CLAIM FEES**

<u>Fee Description</u>	<u>Fee (\$)</u>	<u>Fee (\$)</u>
Each claim over 20 (including Reissues)	50	25
Each independent claim over 3 (including Reissues)	200	100
Multiple dependent claims	360	180
<u>Total Claims</u>	<u>Extra Claims</u>	<u>Fee (\$)</u>
<u>Fee Paid (\$)</u>	<u>Multiple Dependent Claims</u>	<u>Fee (\$)</u>
<u>Fee Paid (\$)</u>	<u>Fee Paid (\$)</u>	<u>Fee Paid (\$)</u>
HP = highest number of total claims paid for, if greater than 20.		
<u>Indep. Claims</u>	<u>Extra Claims</u>	<u>Fee (\$)</u>
<u>Fee Paid (\$)</u>	<u>Fee Paid (\$)</u>	<u>Fee Paid (\$)</u>
HP = highest number of independent claims paid for, if greater than 3.		

**3. APPLICATION SIZE FEE**

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

<u>Total Sheets</u>	<u>Extra Sheets</u>	<u>Number of each additional 50 or fraction thereof</u>	<u>Fee (\$)</u>	<u>Fee Paid (\$)</u>
_____ - 100 = _____	/ 50 = _____	(round up to a whole number) x _____	= _____	

**4. OTHER FEE(S)**

Non-English Specification, \$130 fee (no small entity discount)

Other (e.g., late filing surcharge): IDS**Fees Paid (\$)**

180.00

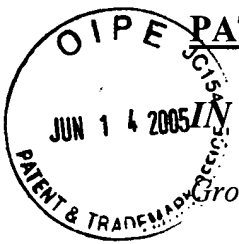
**SUBMITTED BY**

Signature	<u>William B. Richards</u>	Registration No. (Attorney/Agent) 44,301	Telephone 614-424-5612
Name (Print/Type)	William B. Richards		Date 06-13-2005

This collection of information is required by 37 CFR 1.136. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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06-15-05



**PATENT APPLICATION**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Group: 1725 )  
)  
Attorney )  
Docket: 12004 )  
)  
Applicant: Cao et al. )  
)  
Title: Resistance Spot Welding )  
Electrode )  
)  
Serial No.: )  
10/634,020 )  
Filed: )  
08-04-2003 )  
Examiner: )  
Tran, Len )

Certificate Under 37 CFR § 1.10

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as Express Mail in an envelope addressed to Commissioner for Patents, Alexandria, VA 22313-1450.

on 6/14/2005

Judy Readman  
Judy Readman

ED 794591232 US  
Express Mail

**INFORMATION DISCLOSURE STATEMENT**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313

Sir:

Submitted herewith are patents, publications, or other information, which may be material, as defined in 37 CFR § 1.56(b), to the examination of this application, and in respect of which, there may be a duty to disclose in accordance with 37CFR § 1.56(a). Also submitted herewith are forms PTO/SB/08A and PTO/SB/08B on which are listed all cited items of information.

The following references are enclosed:

Foreign Documents:

A1 GB 2 358 826 A 08-08-2001 Weerasinghe

06/16/2005 LWONDIM1 00000080 10634020

01 FC:1806

180.00 OP

Other Art – Non-Patent Literature Documents:

BROWNE, D.J. et al.; Computer Simulation of Resistance Spot Welding in Aluminum: Part I; Welding Research Supplement; pp. 339-s-344-s

BROWNE, D.J. et al.; Computer Simulation of Resistance Spot Welding in Aluminum: Part II; Welding Research Supplement; pp. 417-s-422-s

EAGER, T.W.; Resistance Welding: a Fast, Inexpensive and Deceptively Simple Process; Keynote Address; pp. 247-351

IRVING, ROBERT R.; Resistance Welding of High-Volume Aluminum Automotive Assemblies; MetalForming; March 2001; pp. 27-32

NEID, H.A.; The Finite Element Modeling of the Resistance Spot Welding Process; Welding Research Supplement; April, 1984; pp 123-s-132-s

WU, K.C. et al.; Resistance Spot Welding of Titanium Alloy 8A1-1Mo-1V; Welding Research Supplement; August 1965; pp. 365-s-371-s

ZHOU, M. et al.; Relationships between Quality and Attributes of Spot Welds; Welding Research Supplement; April, 2003; pp. 72-s-77-s

Resistance spot welding; TWI Knowledge Summary; [www.twi.co.uk/j32k/protected/band\\_3/kssaw001.html](http://www.twi.co.uk/j32k/protected/band_3/kssaw001.html)

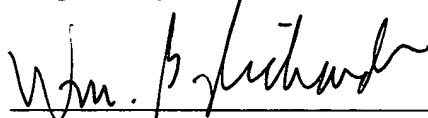
KHAN et al.; Numerical Thermal Model of Resistance Spot Welding in Aluminum; Journal of Thermophysics and Heat Transfer; Vol. 14, No.1; January-March 2000; pp 88-95

While the information referred to in this Information Disclosure Statement may be material pursuant to 37 CFR §1.56(b), the filing of this Information Disclosure Statement is

not intended, pursuant to 37 CFR §1.97(h), to constitute an admission that any patent, publication, or other information referred to is, or is considered to be, material to the patentability of this invention. Further, pursuant to 37 CFR §1.97(g), the filing of this Information Disclosure Statement should not be construed as a representation that a search has been made. Finally, the filing of this Information Disclosure Statement shall not be construed as a representation that no other material information exists and shall not be construed as an admission against interest in any manner.

Pursuant to 37 CFR § 1.97(c), this Information Disclosure Statement is being filed before the mailing date of a Final Office Action under 37 CFR § 1.113 and before the mailing date of a Notice of Allowance under 37 CFR § 1.311. A fee of \$180.00 as set forth in 37 CFR § 1.17(p) for submission of an Information Disclosure Statement under 37 CFR § 1.97(c)(2) is enclosed. Please charge any additional fee or credit any overpayment in connection with this submission to the credit card account shown in the enclosed form PTO-2038. A duplicate copy of this authorization is also enclosed.

Respectfully submitted,



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William B. Richards, Esq.  
Attorney for Applicants  
Reg. No. 44,301

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Substitute for form 1449/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (Use as many sheets as necessary)		<b>Complete if Known</b>	
		Application Number	10/634,020
		Filing Date	08-04-2003
		First Named Inventor	Lu et al. <i>Cao et al.</i>
		Art Unit	1725
Examiner Name	Tran, Len		
Attorney Docket Number	12004		
Sheet	2	of	2

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	B1	BROWNE, D.J. et al.; Computer Simulation of Resistance Spot Welding in Aluminum: Part I; Welding Research Supplement; pp. 339-s-344-s	
	B2	BROWNE, D.J. et al.; Computer Simulation of Resistance Spot Welding in Aluminum: Part II; Welding Research Supplement; pp. 417-s-422-s	
	B3	EAGER, T.W.; Resistance Welding: a Fast, Inexpensive and Deceptively Simple Process; Keynote Address; pp. 247-351	
	B4	IRVING, ROBERT R.; Resistance Welding of High-Volume Aluminum Automotive Assemblies; MetalForming; March 2001; pp. 27-32	
	B5	NEID, H.A.; The Finite Element Modeling of the Resistance Spot Welding Process; Welding Research Supplement; April, 1984; pp 123-s-132-s	
	B6	WU, K.C. et al.; Resistance Spot Welding of Titanium Alloy 8A1-1Mo-1V; Welding Research Supplement; August 1965; pp. 365-s-371-s	
	B7	ZHOU, M. et al.; Relationships between Quality and Attributes of Spot Welds; Welding Research Supplement; April, 2003; pp. 72-s-77-s	
	B8	Resistance spot welding; TWI Knowledge Summary; www.twi.co.uk/j32k/protected/band_3/kssaw001.html	
	B9	KHAN et al.; Numerical Thermal Model of Resistance Spot Welding in Aluminum; Journal of Thermophysics and Heat Transfer; Vol. 14 No. 1; January-March 2000	

Examiner Signature		Date Considered	
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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